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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,176	02/12/2004	Michel Couture	16626-2us PTN/df	3079
<div>7590 MICHEL COUTURE 360 TERRASSE ROBILLARD SAINT-ANDRE'-D'ARGENTEUIL QUEBEC, J0V 1X0 CANADA</div>			<div>EXAMINER HAGEMAN, MARK</div>	
			<div>ART UNIT 3653</div>	<div>PAPER NUMBER</div>
			<div>MAIL DATE 11/19/2007</div>	<div>DELIVERY MODE PAPER</div>

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/776,176	COUTURE, MICHEL	
	<b>Examiner</b>	<b>Art Unit</b>	
	Mark Hageman	3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 62-79 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 62-79 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8-28-2007 has been entered.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the movable wall and horizontally movable jets, as claimed in claims 78 and 79 respectively, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claims 62, 64, and 70 are objected to because of the following informalities:

Claim 62 includes "whereby the fluid flow allows to entrain the second..." This does not make sense and should use language such as "allows for entrainment" or "entrains" in place of "allows to entrain"

Claim 64 line 3 includes "the particle a particle" this should read "the particle" in order to be consistent with claim 62.

Claim 70 claims the recuperation tray positioned within "said passageway," as understood by the examiner the recuperation tray is actually located in the transfer casing or the transfer chamber rather than the passageway. Specifically as understood the passageway is the area in which the first particle group remains.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 78 and 79 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. While examiner acknowledges the disclosure of "appropriate translating mechanisms" in paragraph 39 of applicant's specification, examiner maintains that this is insufficient to support the claims. Specifically there is no disclosure of the structure of the translating mechanism or that the wall with the nozzles is movable relative to the wall with the apertures.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 61-66, 68, 71, and 73-77 are rejected under 35 U.S.C. 102(b) as being anticipated by US 339,723 to Winkler. Winkler discloses a dilution treatment chamber (c) defining a passageway, said passageway being substantially upstanding and defining a passageway top end and a substantially opposed passageway bottom end, said passageway top end defining a particle inlet and said passageway bottom end

defining a first-particle-group outlet for releasing the first particle group said passageway being configured and sized to receive the particle stream at said particle inlet such that the particle stream falls toward said first-particle-group outlet (figure 2);

- a transfer casing (f) located substantially adjacent to said dilution treatment chamber, said transfer casing defining a transfer chamber provided for receiving the second particle group;

- at least one transfer aperture (a) substantially laterally positioned with respect to said passageway, said transfer aperture extending between said transfer chamber and said passageway and allowing fluid communication therebetween (figure 2);

- a distributor (top nozzle d) located in said passageway between said particle inlet and said transfer aperture, said distributor being provided for substantially breaking down the particle stream and distributing the particle stream substantially horizontally within said passageway; and

- at least one fluid flow aperture (d) provided in said dilution treatment chamber for creating a substantially horizontal fluid flow in said passageway, said at least one fluid flow aperture and said transfer aperture being located below said distributor substantially horizontally aligned relatively to each other and located substantially opposed to each other relatively to said passageway, said fluid flow aperture being connectable to the positive pressure source to create the fluid flow (figure 2);

- whereby the fluid flow allows to entrain the second particle group from said passageway through said transfer aperture and into said transfer chamber with the first particle group remaining in said passageway for exiting through said first-particle-group outlet (figure 2 and lines 7+).

-Re claim 63 a pre-treatment module (6) located substantially above said particle inlet, to guide the particle stream and to cause a horizontal dilution of the particle stream.

-Re claim 64 said pre-treatment module has at least one slide portion (figure 2, left side bottom of hopper) sloping downwardly toward said particle inlet for guiding and accelerating the particle a particle stream towards said dilution treatment chamber, and a deflecting surface (unlabeled baffle plate below ramp figure 2) located between said slide and said particle inlet for breaking down the particle stream and for imparting the dilution to the particle stream.

- Re claim 65 at least one of said fluid flow apertures is usable to inject a fluid additive into the particle stream (figure 2). Examiner contends that any structure providing positive pressure is capable of injecting a fluid additive and the injected air itself could be considered a fluid additive.

-Re claim 66 said dilution treatment chamber and said transfer casing share a

wall (a) separating said passageway and said transfer chamber from each other (figure 2).

-Re claim 68 said distributor includes a distributor aperture (top nozzle d) laterally positioned in said passageway, said distributor aperture being defined by a fluid-injection nozzle adapted to be connected to the positive pressure source and connected to the distributor aperture for injecting fluid in said passageway for distributing the particle stream over a surface area of said passageway. Examiner contends that, "adapted to be connected to the positive pressure source and connected to the distributor aperture for injecting fluid in said passageway for distributing the particle stream over a surface area of said passageway" is functional language that fails to provide structural limitation to the claim, see MPEP 2114. Furthermore examiner contends the first nozzle will performed the claimed function in that it provides an air flow which will distribute the particle stream over a surface area of said passageway.

-Re claim 71 said transfer chamber has an outlet at a bottom end thereof, for collecting the second particle group received in said transfer casing (figure 2 bottom left).

-Re claim 73 a method for separating a particle stream into particle groups, comprising

- vertically diluting the particle stream by directing the particle stream into a falling



condition within a passageway and accelerating the particle stream under the action of gravity (figure 2);

- horizontally diluting the particle stream by distributing the particle stream by subjecting the particle stream to high pressure fluid flow creating lateral forces so as to distribute the particle stream over a surface area of said passageway (figure 2 top nozzle d);
- projecting a particle group away from a remainder of the particle stream by creating a fluid flow of predetermined magnitude across the particle stream in said falling condition (remaining nozzles d); and
- collecting the particle group and the remainder of the particle stream at separate locations (g and bottom left figure 2).

-Re claim 74 a step of horizontally diluting the particle stream by providing a horizontal velocity to the particle stream prior to vertically diluting the particle stream (figure 2). Examiner contends that vertical dilution takes place over the length of the chamber while the horizontal dilution takes place at the top of the chamber.

-Re claim 75 distributing the particle stream includes injecting a fluid flow into the particle stream to distribute the particle stream over the surface area of the passageway (top nozzle d).

Re claim 76 collecting the particle group and the remainder of the particle stream at separate locations includes collecting the particle group into at least two particle

subgroups by providing a first collecting location for collecting the separated particle groups, and a second collecting location for collecting the remaining particle stream in the passageway, so as to collect particles in the subgroups according to the predetermined magnitude, the predetermined magnitude influencing the quantity and traveling distance of entrainment and projection of the particles (g and bottom left figure 2).

-Re claim 77 said passageway has a substantially parallelepipedic configuration (figure 2).

8. Claims 62-68 and 70-76 are rejected under 35 U.S.C. 102(b) as being anticipated by US 2,003,899 to Nesbit. Nesbit discloses a dilution treatment chamber defining a passageway (area between left wall and first chute 23), said passageway being substantially upstanding and defining a passageway top end and a substantially opposed passageway bottom end, said passageway top end defining a particle inlet and said passageway bottom end defining a first-particle-group outlet 921) for releasing the first particle group said passageway being configured and sized to receive the particle stream at said particle inlet such that the particle stream falls toward said first-particle-group outlet (figure 1);

- a transfer casing (area above and including chutes 23-25 etc.) located substantially adjacent to said dilution treatment chamber, said transfer casing defining a transfer chamber provided for receiving the second particle group;
- at least one transfer aperture (area between 12 and 6) substantially laterally positioned with respect to said passageway, said transfer aperture extending between said transfer chamber and said passageway and allowing fluid communication therebetween;
- a distributor (n, 5, 6) located in said passageway between said particle inlet and said transfer aperture, said distributor being provided for substantially breaking down the particle stream and distributing the particle stream substantially horizontally within said passageway; and
- at least one fluid flow aperture (n, n2) provided in said dilution treatment chamber for creating a substantially horizontal fluid flow in said passageway, said at least one fluid flow aperture and said transfer aperture being located below said distributor substantially horizontally aligned relatively to each other and located substantially opposed to each other relatively to said passageway, said fluid flow aperture being connectable to the positive pressure source to create the fluid flow;
- whereby the fluid flow allows to entrain the second particle group from said passageway through said transfer aperture and into said transfer chamber with the first particle group remaining in said passageway for exiting through said first-particle-group outlet (page 1 lines 10+ and lines 43+).

-Re claim 63 a pre-treatment module (1, 2, 3, and page lines 30+) located substantially above said particle inlet, to guide the particle stream and to cause a horizontal dilution of the particle stream.

-Re claim 64 said pre-treatment module has at least one slide portion (directly below conveyor exit) sloping downwardly toward said particle inlet for guiding and accelerating the particle a particle stream towards said dilution treatment chamber, and a deflecting surface (3, 5) located between said slide and said particle, inlet for breaking down the particle stream and for imparting the dilution to the particle stream.

- Re claim 65 at least one of said fluid flow apertures is usable to inject a fluid additive into the particle stream. Examiner contends that any structure providing positive pressure is capable of injecting a fluid additive and the injected air itself could be considered a fluid additive.

-Re claim 66 said dilution treatment chamber and said transfer casing share a wall separating said passageway and said transfer chamber from each other (upright portion directly below 12).

-Re claim 67 said fluid flow aperture is defined by at least one nozzle provided for projecting a fluid jet, said nozzle including an adjustable gate (58, 59 and c4 lines 35+)

selectively movable across said fluid flow aperture for controlling a rate and pressure of the fluid jet projected from said fluid flow aperture.

-Re claim 68 said distributor includes a distributor aperture laterally (n) positioned in said passageway, said distributor aperture being defined by a fluid-injection nozzle adapted to be connected to the positive pressure source and connected to the distributor aperture for injecting fluid in said passageway for distributing the particle stream over a surface area of said passageway.

-Re claim 70 a recuperation tray (12), positioned within said passageway below said transfer aperture for collecting particles of the first particle group deflected or forced out of said passageway by the flow of fluid, and for returning the collected particles towards said particle inlet, in the remainder of the particle stream.

-Re claim 71 said transfer chamber has an outlet at a bottom end thereof, for collecting the second particle group received in said transfer casing (c4 lines 47+).

-Re claim 72 said transfer chamber is segmented into laterally adjacent upstanding receptacles to further separate the second particle group according to the distance over which the particles of the second particle group are entrained by the flow of fluid (figure 1).

-Re claim 73 a method for separating a particle stream into particle groups, comprising

- vertically diluting the particle stream by directing the particle stream into a falling condition within a passageway and accelerating the particle stream under the action of gravity (figure 1 above 9 and in area between n2 and n3 etc.);
- horizontally diluting the particle stream by distributing the particle stream by subjecting the particle stream to high pressure fluid flow creating lateral forces so as to distribute the particle stream over a surface area of said passageway (n);
- projecting a particle group away from a remainder of the particle stream by creating a fluid flow of predetermined magnitude across the particle stream in said falling condition (n2; and
- collecting the particle group and the remainder of the particle stream at separate locations (9, 23, 24, 25 etc. and c4 lines 47+).

-Re claim 74 a step of horizontally diluting the particle stream by providing a horizontal velocity to the particle stream prior to vertically diluting the particle stream (n is prior the area below n2).

-Re claim 75 distributing the particle stream includes injecting a fluid flow into the particle stream to distribute the particle stream over the surface area of the passageway (n).

-Re claim 76 collecting the particle group and the remainder of the particle stream at separate locations includes collecting the particle group into at least two particle subgroups by providing a first collecting location for collecting the separated particle groups, and a second collecting location for collecting the remaining particle stream in the passageway, so as to collect particles in the subgroups according to the predetermined magnitude, the predetermined magnitude influencing the quantity and traveling distance of entrainment and projection of the particles (c4 lines 47+).

9. Claims 62, 66, 69, and 71 are rejected under 35 U.S.C. 102(b) as being anticipated by US 818,944 to Eaches. Eaches discloses a dilution treatment chamber defining a passageway (internal area above screens), said passageway being substantially upstanding and defining a passageway top end and a substantially opposed passageway bottom end, said passageway top end defining a particle inlet and said passageway bottom end defining a first-particle-group outlet for releasing the first particle group said passageway being configured and sized to receive the particle stream at said particle inlet such that the particle stream falls toward said first-particle-group outlet (figure 1);

- a transfer casing (area below screen attached to output F) located substantially adjacent to said dilution treatment chamber, said transfer casing defining a transfer chamber provided for receiving the second particle group;

- at least one transfer aperture (E) substantially laterally positioned with respect to said passageway, said transfer aperture extending between said transfer chamber and said passageway and allowing fluid communication therebetween;
- a distributor (B) located in said passageway between said particle inlet and said transfer aperture, said distributor being provided for substantially breaking down the particle stream and distributing the particle stream substantially horizontally within said passageway; and
- at least one fluid flow aperture (B and shaft opening in wall) provided in said dilution treatment chamber for creating a substantially horizontal fluid flow in said passageway, said at least one fluid flow aperture and said transfer aperture being located below said distributor substantially horizontally aligned relatively to each other and located substantially opposed to each other relatively to said passageway, said fluid flow aperture being connectable to the positive pressure source to create the fluid flow (figure 1);
- whereby the fluid flow allows to entrain the second particle group from said passageway through said transfer aperture and into said transfer chamber with the first particle group remaining in said passageway for exiting through said first-particle-group outlet (lines 54+).

-Re claim 66 said dilution treatment chamber and said transfer casing share a



wall separating said passageway and said transfer chamber from each other (screen C1 and c2 along with solid walls).

-Re claim 69 said distributor is either an impeller (b), an ultrasound system, or a reciprocating strainer.

-Re claim 71 said transfer chamber has an outlet at a bottom end thereof (F), for collecting the second particle group received in said transfer casing.

### ***Response to Arguments***

10. Applicant's arguments filed 8-28-2007 have been fully considered but they are not persuasive. Applicant stated that the prior art does not show the claimed invention specifically the dilution treatment chamber as claimed in claim 62 and the step of subjecting the particle stream to high pressure fluid flow prior to a separation step regarding claim 73. As set forth above examiner contends that the prior does show these limitations when the claims are given their broadest reasonable interpretation.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Hageman whose telephone number is (571) 272-3027. The examiner can normally be reached on M-F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on (571) 272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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